

## **RAW SEQUENCE LISTING**

**The Biotechnology Systems Branch of the Scientific and Technical Information Center (STIC) no errors detected.**

Application Serial Number: 10/620,787  
Source: JFWO  
Date Processed by STIC: 09/14/2005

***ENTERED***



IFWO

## RAW SEQUENCE LISTING

PATENT APPLICATION: US/10/620,787

DATE: 09/14/2005

TIME: 09:41:50

Input Set : A:\51300-00006 Sequence Listing.txt

Output Set: N:\CRF4\09142005\J620787.raw

3 <110> APPLICANT: Simard, John  
 4       Simms, John J.  
 5       Qiu, Zhiyong  
 7 <120> TITLE OF INVENTION: Immunogenic Compositions Derived from Poxviruses and Methods  
 of  
 8       Using Same  
 10 <130> FILE REFERENCE: 51300-00006  
 12 <140> CURRENT APPLICATION NUMBER: 10/620,787  
 13 <141> CURRENT FILING DATE: 2003-07-15  
 15 <150> PRIOR APPLICATION NUMBER: 60/396,293  
 16 <151> PRIOR FILING DATE: 2002-07-15  
 18 <160> NUMBER OF SEQ ID NOS: 32  
 20 <170> SOFTWARE: PatentIn version 3.2  
 22 <210> SEQ ID NO: 1  
 23 <211> LENGTH: 250  
 24 <212> TYPE: PRT  
 25 <213> ORGANISM: Vaccinia virus  
 27 <400> SEQUENCE: 1  
 29 Met Gly Ala Ala Ala Ser Ile Gln Thr Thr Val Asn Thr Leu Ser Glu  
 30 1               5               10               15  
 33 Arg Ile Ser Ser Lys Leu Glu Gln Glu Ala Asn Ala Ser Ala Gln Thr  
 34       20               25               30  
 37 Lys Cys Asp Ile Glu Ile Gly Asn Phe Tyr Ile Arg Gln Asn His Gly  
 38       35               40               45  
 41 Cys Asn Leu Thr Val Lys Asn Met Cys Ser Ala Asp Ala Asp Ala Gln  
 42       50               55               60  
 45 Leu Asp Ala Val Leu Ser Ala Ala Thr Glu Thr Tyr Ser Gly Leu Thr  
 46 65               70               75               80  
 49 Pro Glu Gln Lys Ala Tyr Val Pro Ala Met Phe Thr Ala Ala Leu Asn  
 50       85               90               95  
 53 Ile Gln Thr Ser Val Asn Thr Val Val Arg Asp Phe Glu Asn Tyr Val  
 54       100               105               110  
 57 Lys Gln Thr Cys Asn Ser Ser Ala Val Val Asp Asn Lys Leu Lys Ile  
 58       115               120               125  
 61 Gln Asn Val Ile Ile Asp Glu Cys Tyr Gly Ala Pro Gly Ser Pro Thr  
 62       130               135               140  
 65 Asn Leu Glu Phe Ile Asn Thr Gly Ser Ser Lys Gly Asn Cys Ala Ile  
 66 145               150               155               160  
 69 Lys Ala Leu Met Gln Leu Thr Thr Lys Ala Thr Thr Gln Ile Ala Pro  
 70       165               170               175  
 73 Lys Gln Val Ala Gly Thr Gly Val Gln Phe Tyr Met Ile Val Ile Gly  
 74       180               185               190  
 77 Val Ile Ile Leu Ala Ala Leu Phe Met Tyr Tyr Ala Lys Arg Met Leu  
 78       195               200               205

## RAW SEQUENCE LISTING

PATENT APPLICATION: US/10/620,787

DATE: 09/14/2005

TIME: 09:41:50

Input Set : A:\51300-00006 Sequence Listing.txt  
 Output Set: N:\CRF4\09142005\J620787.raw

81 Phe Thr Ser Thr Asn Asp Lys Ile Lys Leu Ile Leu Ala Asn Lys Glu  
 82 210 215 220  
 85 Asn Val His Trp Thr Thr Tyr Met Asp Thr Phe Phe Arg Thr Ser Pro  
 86 225 230 235 240  
 89 Met Val Ile Ala Thr Thr Asp Met Gln Asn  
 90 245 250  
 93 <210> SEQ ID NO: 2  
 94 <211> LENGTH: 250  
 95 <212> TYPE: PRT  
 96 <213> ORGANISM: Vaccinia virus  
 98 <400> SEQUENCE: 2  
 100 Met Gly Ala Ala Ala Ser Ile Gln Thr Thr Val Asn Thr Leu Ser Glu  
 101 1 5 10 15  
 104 Arg Ile Ser Ser Lys Leu Glu Gln Glu Ala Asn Ala Ser Ala Gln Thr  
 105 20 25 30  
 108 Lys Cys Asp Ile Glu Ile Gly Asn Phe Tyr Ile Arg Gln Asn His Gly  
 109 35 40 45  
 112 Cys Asn Leu Thr Val Lys Asn Met Cys Ser Ala Asp Ala Asp Ala Gln  
 113 50 55 60  
 116 Leu Asp Ala Val Leu Ser Ala Ala Thr Glu Thr Tyr Ser Gly Leu Thr  
 117 65 70 75 80  
 120 Pro Glu Gln Lys Ala Tyr Val Pro Ala Met Phe Thr Ala Ala Leu Asn  
 121 85 90 95  
 124 Ile Gln Thr Ser Val Asn Thr Val Val Arg Asp Phe Glu Asn Tyr Val  
 125 100 105 110  
 128 Lys Gln Thr Cys Asn Ser Ser Ala Val Val Asp Asn Lys Leu Lys Ile  
 129 115 120 125  
 132 Gln Asn Val Ile Ile Asp Glu Cys Tyr Gly Ala Pro Gly Ser Pro Thr  
 133 130 135 140  
 136 Asn Leu Glu Phe Ile Asn Thr Gly Ser Ser Lys Gly Asn Cys Ala Ile  
 137 145 150 155 160  
 140 Lys Ala Leu Met Gln Leu Thr Thr Lys Ala Thr Thr Gln Ile Ala Pro  
 141 165 170 175  
 144 Arg Gln Val Ala Gly Thr Gly Val Gln Phe Tyr Met Ile Val Ile Gly  
 145 180 185 190  
 148 Val Ile Ile Leu Ala Ala Leu Phe Met Tyr Tyr Ala Lys Arg Met Leu  
 149 195 200 205  
 152 Phe Thr Ser Thr Asn Asp Lys Ile Lys Leu Ile Leu Ala Asn Lys Glu  
 153 210 215 220  
 156 Asn Val His Trp Thr Thr Tyr Met Asp Thr Phe Phe Arg Thr Ser Pro  
 157 225 230 235 240  
 160 Met Val Ile Ala Thr Thr Asp Met Gln Asn  
 161 245 250  
 164 <210> SEQ ID NO: 3  
 165 <211> LENGTH: 250  
 166 <212> TYPE: PRT  
 167 <213> ORGANISM: Variola virus  
 169 <400> SEQUENCE: 3  
 171 Met Gly Ala Ala Ala Ser Ile Gln Thr Thr Val Asn Thr Leu Ser Glu

## RAW SEQUENCE LISTING

PATENT APPLICATION: US/10/620,787

DATE: 09/14/2005

TIME: 09:41:50

Input Set : A:\51300-00006 Sequence Listing.txt  
 Output Set: N:\CRF4\09142005\J620787.raw

172 1 5 10 15  
 175 Arg Ile Ser Ser Lys Leu Glu Gln Glu Ala Asn Ala Ser Ala Gln Thr  
 176 20 25 30  
 179 Lys Cys Asp Ile Glu Ile Gly Asn Phe Tyr Ile Arg Gln Asn His Gly  
 180 35 40 45  
 183 Cys Asn Leu Thr Val Lys Asn Met Cys Ser Ala Asp Ala Asp Ala Gln  
 184 50 55 60  
 187 Leu Asp Ala Val Leu Ser Ala Ala Thr Glu Thr Tyr Ser Gly Leu Thr  
 188 65 70 75 80  
 191 Pro Glu Gln Lys Ala Tyr Val Pro Ala Met Phe Thr Ala Ala Leu Asn  
 192 85 90 95  
 195 Ile Gln Thr Ser Val Asn Thr Val Val Arg Asp Phe Glu Asn Tyr Val  
 196 100 105 110  
 199 Lys Gln Thr Cys Asn Ser Ser Ala Val Val Asp Asn Lys Leu Lys Ile  
 200 115 120 125  
 203 Gln Asn Val Ile Ile Asp Glu Cys Tyr Gly Ala Pro Gly Ser Pro Thr  
 204 130 135 140  
 207 Asn Leu Glu Phe Ile Asn Thr Gly Ser Ser Lys Gly Asn Cys Ala Ile  
 208 145 150 155 160  
 211 Lys Ala Leu Met Gln Leu Thr Thr Lys Ala Thr Thr Gln Ile Ala Pro  
 212 165 170 175  
 215 Arg Gln Val Ala Gly Thr Gly Val Gln Phe Tyr Met Ile Val Ile Gly  
 216 180 185 190  
 219 Val Ile Ile Leu Ala Ala Leu Phe Met Tyr Tyr Ala Lys Arg Met Leu  
 220 195 200 205  
 223 Phe Thr Ser Thr Asn Asp Lys Ile Lys Leu Ile Leu Ala Asn Lys Glu  
 224 210 215 220  
 227 Asn Val His Trp Thr Thr Tyr Met Asp Thr Phe Phe Arg Thr Ser Pro  
 228 225 230 235 240  
 231 Met Val Ile Ala Thr Thr Asp Ile Gln Asn  
 232 245 250  
 235 <210> SEQ ID NO: 4  
 236 <211> LENGTH: 250  
 237 <212> TYPE: PRT  
 238 <213> ORGANISM: Variola virus  
 240 <400> SEQUENCE: 4  
 242 Met Gly Ala Ala Ala Ser Ile Gln Thr Thr Val Asn Thr Leu Ser Glu  
 243 1 5 10 15  
 246 Arg Ile Ser Ser Lys Leu Glu Gln Glu Ala Asn Ala Ser Ala Gln Thr  
 247 20 25 30  
 250 Lys Cys Asp Ile Glu Ile Gly Asn Phe Tyr Ile Arg Gln Asn His Gly  
 251 35 40 45  
 254 Cys Asn Leu Thr Val Lys Asn Met Cys Ser Ala Asp Ala Asp Ala Gln  
 255 50 55 60  
 258 Leu Asp Ala Val Leu Ser Ala Ala Thr Glu Thr Tyr Ser Gly Leu Thr  
 259 65 70 75 80  
 262 Pro Glu Gln Lys Ala Tyr Val Pro Ala Met Phe Thr Ala Ala Leu Asn  
 263 85 90 95  
 266 Ile Gln Thr Ser Val Asn Thr Val Val Arg Asp Phe Glu Asn Tyr Val

## RAW SEQUENCE LISTING

PATENT APPLICATION: US/10/620,787

DATE: 09/14/2005

TIME: 09:41:50

Input Set : A:\51300-00006 Sequence Listing.txt  
 Output Set: N:\CRF4\09142005\J620787.raw

267 100 105 110  
 270 Lys Gln Thr Cys Asn Ser Ser Ala Val Val Asp Asn Lys Leu Lys Ile  
 271 115 120 125  
 274 Gln Asn Val Ile Ile Asp Glu Cys Tyr Gly Ala Pro Gly Ser Pro Thr  
 275 130 135 140  
 278 Asn Leu Glu Phe Ile Asn Thr Gly Ser Ser Lys Gly Asn Cys Ala Ile  
 279 145 150 155 160  
 282 Lys Ala Leu Met Gln Leu Thr Thr Lys Ala Thr Thr Gln Ile Ala Pro  
 283 165 170 175  
 286 Arg Gln Val Ala Gly Thr Gly Val Gln Phe Tyr Met Ile Val Ile Gly  
 287 180 185 190  
 290 Val Ile Ile Leu Ala Ala Leu Phe Met Tyr Tyr Ala Lys Arg Met Leu  
 291 195 200 205  
 294 Phe Thr Ser Thr Asn Asp Lys Ile Lys Leu Ile Leu Ala Asn Lys Glu  
 295 210 215 220  
 298 Asn Val His Trp Thr Thr Tyr Met Asp Thr Phe Phe Arg Thr Ser Pro  
 299 225 230 235 240  
 302 Met Val Ile Ala Thr Thr Asp Ile Gln Asn  
 303 245 250  
 306 <210> SEQ ID NO: 5  
 307 <211> LENGTH: 250  
 308 <212> TYPE: PRT  
 309 <213> ORGANISM: Artificial  
 311 <220> FEATURE:  
 312 <223> OTHER INFORMATION: Consensus sequence for SEQ ID NOS. 1-4  
 314 <400> SEQUENCE: 5  
 316 Met Gly Ala Ala Ala Ser Ile Gln Thr Thr Val Asn Thr Leu Ser Glu  
 317 1 5 10 15  
 320 Arg Ile Ser Ser Lys Leu Glu Gln Glu Ala Asn Ala Ser Ala Gln Thr  
 321 20 25 30  
 324 Lys Cys Asp Ile Glu Ile Gly Asn Phe Tyr Ile Arg Gln Asn His Gly  
 325 35 40 45  
 328 Cys Asn Leu Thr Val Lys Asn Met Cys Ser Ala Asp Ala Asp Ala Gln  
 329 50 55 60  
 332 Leu Asp Ala Val Leu Ser Ala Ala Thr Glu Thr Tyr Ser Gly Leu Thr  
 333 65 70 75 80  
 336 Pro Glu Gln Lys Ala Tyr Val Pro Ala Met Phe Thr Ala Ala Leu Asn  
 337 85 90 95  
 340 Ile Gln Thr Ser Val Asn Thr Val Val Arg Asp Phe Glu Asn Tyr Val  
 341 100 105 110  
 344 Lys Gln Thr Cys Asn Ser Ser Ala Val Val Asp Asn Lys Leu Lys Ile  
 345 115 120 125  
 348 Gln Asn Val Ile Ile Asp Glu Cys Tyr Gly Ala Pro Gly Ser Pro Thr  
 349 130 135 140  
 352 Asn Leu Glu Phe Ile Asn Thr Gly Ser Ser Lys Gly Asn Cys Ala Ile  
 353 145 150 155 160  
 356 Lys Ala Leu Met Gln Leu Thr Thr Lys Ala Thr Thr Gln Ile Ala Pro  
 357 165 170 175  
 360 Arg Gln Val Ala Gly Thr Gly Val Gln Phe Tyr Met Ile Val Ile Gly

## RAW SEQUENCE LISTING

PATENT APPLICATION: US/10/620,787

DATE: 09/14/2005

TIME: 09:41:50

Input Set : A:\51300-00006 Sequence Listing.txt  
 Output Set: N:\CRF4\09142005\J620787.raw

361 180 185 190  
 364 Val Ile Ile Leu Ala Ala Leu Phe Met Tyr Tyr Ala Lys Arg Met Leu  
 365 195 200 205  
 368 Phe Thr Ser Thr Asn Asp Lys Ile Lys Leu Ile Leu Ala Asn Lys Glu  
 369 210 215 220  
 372 Asn Val His Trp Thr Thr Tyr Met Asp Thr Phe Phe Arg Thr Ser Pro  
 373 225 230 235 240  
 376 Met Val Ile Ala Thr Thr Asp Met Gln Asn  
 377 245 250  
 380 <210> SEQ ID NO: 6  
 381 <211> LENGTH: 110  
 382 <212> TYPE: PRT  
 383 <213> ORGANISM: Vaccinia virus  
 385 <400> SEQUENCE: 6  
 387 Met Asp Gly Thr Leu Phe Pro Gly Asp Asp Asp Leu Ala Ile Pro Ala  
 388 1 5 10 15  
 391 Thr Glu Phe Phe Ser Thr Lys Ala Ala Lys Lys Pro Asp Arg Lys Arg  
 392 20 25 30  
 395 Glu Gln Ile Val Lys Ala Asp Glu Asp Asp Asn Glu Glu Thr Leu Lys  
 396 35 40 45  
 399 Gln Arg Leu Thr Asn Leu Glu Lys Lys Ile Thr Asn Val Thr Thr Lys  
 400 50 55 60  
 403 Phe Glu Gln Ile Glu Lys Cys Cys Lys Arg Asn Asp Glu Val Leu Phe  
 404 65 70 75 80  
 407 Arg Leu Glu Asn His Ala Glu Thr Leu Arg Ala Ala Met Ile Ser Leu  
 408 85 90 95  
 411 Ala Lys Lys Ile Asp Val Gln Thr Gly Arg Arg Pro Tyr Glu  
 412 100 105 110  
 415 <210> SEQ ID NO: 7  
 416 <211> LENGTH: 110  
 417 <212> TYPE: PRT  
 418 <213> ORGANISM: Vaccinia virus  
 420 <400> SEQUENCE: 7  
 422 Met Asp Gly Thr Leu Phe Pro Gly Asp Asp Asp Leu Ala Ile Pro Ala  
 423 1 5 10 15  
 426 Thr Glu Phe Phe Ser Thr Lys Ala Asp Lys Lys Pro Glu Ala Lys Arg  
 427 20 25 30  
 430 Glu Ala Ile Val Lys Ala Asp Glu Asp Asp Asn Glu Glu Thr Leu Lys  
 431 35 40 45  
 434 Gln Arg Leu Thr Asn Leu Glu Lys Lys Ile Thr Asn Val Thr Thr Lys  
 435 50 55 60  
 438 Phe Glu Gln Ile Glu Lys Cys Cys Lys Arg Asn Asp Glu Val Leu Phe  
 439 65 70 75 80  
 442 Arg Leu Glu Asn His Ala Glu Thr Leu Arg Ala Ala Met Ile Ser Leu  
 443 85 90 95  
 446 Ala Lys Lys Ile Asp Val Gln Thr Gly Arg Arg Pro Tyr Glu  
 447 100 105 110  
 450 <210> SEQ ID NO: 8  
 451 <211> LENGTH: 110

RAW SEQUENCE LISTING ERROR SUMMARY DATE: 09/14/2005  
PATENT APPLICATION: US/10/620,787 TIME: 09:41:51

Input Set : A:\51300-00006 Sequence Listing.txt  
Output Set: N:\CRF4\09142005\J620787.raw

### Invalid <213> Response:

Use of "Artificial" only as "<213> Organism" response is incomplete, per 1.823(b) of New Sequence Rules. Valid response is Artificial Sequence.

Seq#:5,10,15,20,27,32

**VERIFICATION SUMMARY** DATE: 09/14/2005  
**PATENT APPLICATION:** US/10/620,787 TIME: 09:41:51

**Input Set : A:\51300-00006 Sequence Listing.txt**  
**Output Set: N:\CRF4\09142005\J620787.raw**